Some background on the mouse:

Since 2005, there have been 29 documented remaining populations (2 in Colorado, 15 in New Mexico and 12 in Arizona) spread across eight geographic management areas. Nearly all of these populations are isolated and widely separated, and all have patches of suitable habitat that are too small to support resilient populations of the mouse. Because of current conditions of the isolated populations, when localities are extirpated there is little or no opportunity for natural recolonization of the area due to the species' limited dispersal capacity.

Four of the eight geographic management areas since 2005 have two or more locations known to be occupied by the jumping mouse, but all are too small to support resilient populations. The remaining four areas have only one location known to be occupied since 2005, and each population is too small to be resilient. Therefore, the jumping mouse does not have the number and distribution of resilient populations needed to provide the genetic and ecological diversity required for viability of the species.

At the current rate of population extirpations, without substantial conservation efforts, the probability of persistence of the species is expected to be severely compromised in less than 10 years with decreasing viability beyond 10 years, presenting an **elevated risk of extinction**.

Most of New Mexico meadow jumping mouse habitat is on public land. Cooperative conservation is used all over the country for recovery of a variety of species. In general, implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribe, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (e.g., restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education.

Because this subspecies is listed as endangered, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the ESA, the States of Colorado, New Mexico, and Arizona would be eligible for Federal funds to implement management actions that promote the protection and recovery of the New Mexico meadow jumping mouse. Information on our grant programs that are available to aid species recovery can be found at: http://www.fws.gov/grants.

Also, we may issue permits to carry out otherwise prohibited activities involving endangered and threatened wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 for endangered species, and at 17.32 for threatened species. With regard to endangered wildlife, a permit must be issued for the following purposes: for scientific purposes, to enhance the propagation or survival of the species, and for incidental take in connection with otherwise lawful activities.

The primary sources of current and future habitat losses include grazing pressure (which removes the needed vegetation), water management and use (which causes vegetation loss from mowing and drying of soils), lack of water due to drought (exacerbated by climate change), wildfires (exacerbated by climate change), drought (also exacerbated by climate change), scouring floods, loss of beaver ponds, highway reconstruction, residential and commercial development, coalbed methane development, and unregulated recreation.

The New Mexico meadow jumping mouse has exceptionally specialized habitat requirements to support its life-history needs and maintain adequate population sizes. Habitat requirements include tall (averaging at least 24 inches), dense riparian herbaceous vegetation (plants with no woody tissue) primarily composed of sedges and forbs. This suitable habitat is found only when wetland vegetation achieves full growth potential associated with perennial flowing water. This vegetation is an important resource need for the jumping mouse because it provides vital food sources (insects and seeds), as well as the structural material for building day nests that are used for shelter from predators.

In addition, individual jumping mice also need intact upland areas (areas up gradient and beyond the floodplain of rivers and streams) adjacent to riparian wetland areas because this is where they build nests or use burrows to give birth to young in the summer and to hibernate over the winter.

These suitable habitat conditions need to be in appropriate locations and of adequate sizes to support healthy populations of the New Mexico meadow jumping mouse. Historically, these wetland habitats would have been in large patches (movements of 656 to 2,297 feet) to disperse to other habitat patches within stream segments) located intermittently along long stretches of streams. Connectivity between patches of suitable habitat is necessary to facilitate daily and seasonal movements, and dispersal to increase the likelihood of long-term viability of jumping mouse populations.

We estimate that resilient populations of jumping mice need connected areas of suitable habitat in the range of at least about 68 to 181 acres, along 6 to 15 miles of flowing

streams, ditches, or canals. The minimum area needed is given as a range due to the uncertainty of an absolute minimum and because local conditions within drainages will vary.

Rangewide, we determined that the New Mexico meadow jumping mouse needs at least two resilient populations (where at least two existed historically) within each of eight identified geographic management areas. This number and distribution of resilient populations is expected to provide the subspecies with the necessary redundancy and representation to provide for viability.

We found the jumping mouse is at an elevated risk of extinction now and no data indicate that the situation will improve without significant conservation intervention. Conservation of the species requires the restoration of habitat within each of the eight conservation areas to provide additional areas for local populations to expand and become established. Consequently, current populations should be expanded as rapidly as possible by protecting and restoring (through grazing management and water management) at least 9 to 24 km (5.6 to 15 mi) of continuous suitable habitat along stream reaches, ditches, or canals.

The New Mexico meadow jumping mouse is a small mammal that hibernates about eight or nine months out of the year – longer than most mammals – and is only active three or four months during the summer. Within this short time frame, it must breed, birth, raise young and store up sufficient fat reserves to survive the next year's hibernation period. In addition, the species only lives up to three years and has one litter annually with seven or less young. As a result, if resources are not available in a single season, populations are greatly stressed.

The New Mexico meadow jumping mouse historical distribution likely included riparian wetlands along streams in the Sangre de Cristo and San Juan Mountains from southern Colorado to central New Mexico, including the Jemez and Sacramento Mountains and the Rio Grande Valley from Espanola to Bosque del Apache National Wildlife Refuge, and into parts of the White Mountains in eastern Arizona.